Consumption Smoothing, Saving, Credit and Insurance

Lecture 6/2: Risk and Insurance

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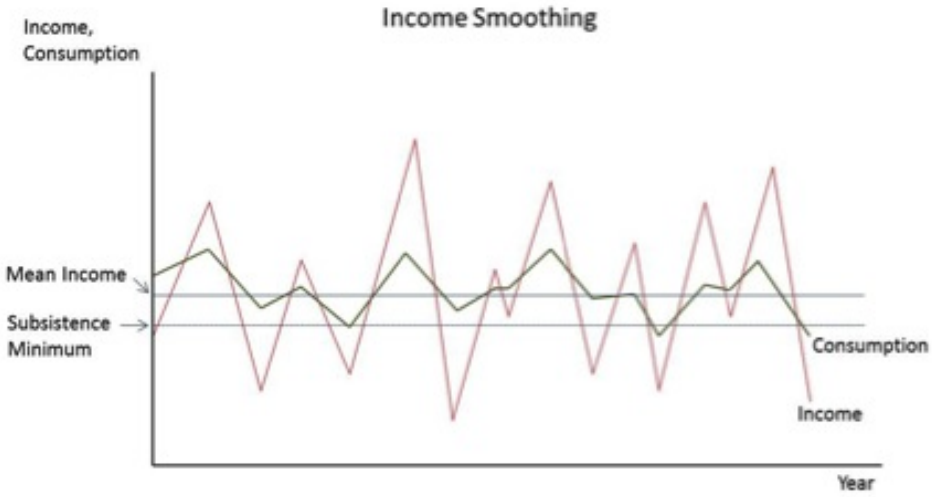
Outline

- Risk
  - Implication of risk and uncertainty
  - How do the poor manage risk?
  - Welfare costs of uninsure
- Insurance
  - Asymmestric information of insurance
  - Group-based insurance
  - Index insurance and its challenges

Implication of Risk and Uncertainty

- Risk makes income (and consumption) volatile



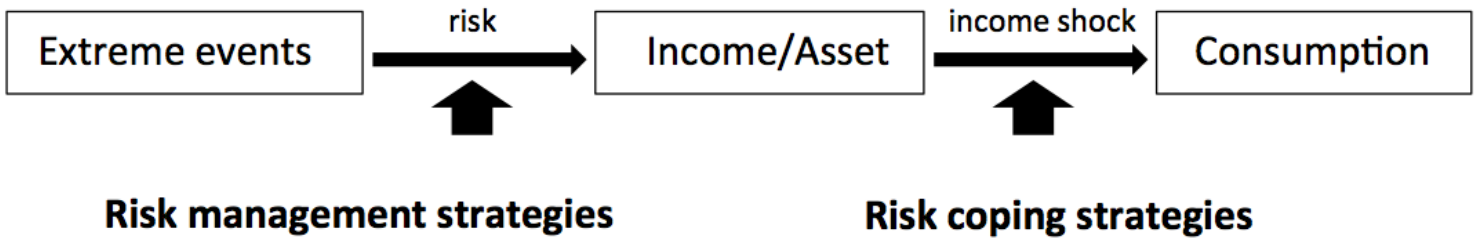
- What could be risk that causes income shock?
  - drought/flood/natural diaster, death, illness, price/market, crop fails, violence, political issues
- Covariate risk vs. idiosyncratic risk

Implication of Risk and Uncertainty

- Risk can keep people in poverty traps
  - Getting out of poverty trap requires steps thay might be too risky (to get high returns means to involve in high risk)
  - The poor cannot get loans
- Risk can force people into poverty traps
  - Cannot recover from temporary setbacks (drought, illness, death of animal)

How do the poor manage risk?

- The poor are still largely uninsured in the absence of insurance and credit markets.
- Their risk management and coping strategies could further carry regressive long-term poverty costs.



- Reference: Dr. Sommarat

How do the poor manage risk?

- Risk management strategies (Ex-ante)
  - Diversification (off farm, multiple crops, migration)
  - Low risk (low return) portfolios
- Risk coping strategies (Ex-post)
  - Self insurance (saving in the form of buffer assets)
  - Informal group-based insurance (reciprocal transfers, loans)
  - Labor reallocation (including child labor)

The welfare costs of uninsured risk 'ex ante'

- Low-return portfolio choices of the poor
  - In India, Ethiopia, Kenya, Tanzania, Thailand: 25-50% loss in mean return of the poor relative to the rich due to conservative assets/income portfolio choices
- Risk also reduce the poor's incentive to invest, adopt new technology and use fertiliser
  - In India, Ethiopia, Malawi, Zimbabwe: These ex-ante risk reduction behavior could reduce capital accumulation by up to 40%
  - The mega flood 2011 in Thailand and Cambodia reduced rice farmers' farm investment

The welfare costs of uninsured risk 'ex post'

- Substantial and long-lasting welfare losses from coveriate shocks
  - Ex: Famine in Ethiopia 1984 could lead to lower income growth (of -10-15%) in 1990s
- Shocks could place long-term impacts on human capital accumulation
  - Ex: In Indonesia, investment in education declined after the 1997 financial crisis, especially among the poorest

The introduction of insurance

- Insurance $\rightarrow$ protect rural livelihoods and escape poverty
  - Provide safety net to prevent collaspe of vulnerable populations into poverty
  - Enhance investment incentives among the poor
  - Induce financial deepening by crowding-in credit supply and demand
- Insurance $\rightarrow$ pre-finance effective emergency response and recovery (from shocks)
- But, can insurance be sustainably offered in the low income countries?
  - Information asymmetry
  - Transaction cost
  - Covariate nature of risk

Asymmetric information in insurance

- The insurer knows less than the insured about:
  - His intrinsic riskiness (TYPE)
  - The things he does that affect the probability of an insurance payout (ACTIONS)
  - Damages
  - If the cost of overcoming the above lists is too high, the insurance market fails
- Adverse selection
  - Rikier types are more likely to demand insurance
  - If insurer bases premium on averge riskiness, low risk types leave the market
- Moral hazard
  - The greater the insurance coverage, the less incentive to act in ways that reduce risk
  - And, the probability of the insurer having to make a payout increases

Informal risk sharing arrangements (IRSA)

- Local people (farmily, friends, villagers) have good information about each others'
  - types
  - actions (similar logic as microfinance)
- Thus, they can insure each other (with low transaction cost): group-based insurance
- But, there are some limitations:
  - Information is not perfect, and enforcement can be a problem
  - Good for idiosyscratic risks but not very useful against covariate risks (earthquakes, droughts, floods)
  - The poorest are often excluded from the risk sharing network

Index insurance

- Insurance payouts are based on some external index
  - correlated with farmer's yields, but
  - exogenous to farmer's characteristics and actions
- What does the index base on?
  - Rainfall, water level in a reservoir
  - Satellite imagery (vegetative index)
  - Area yields (average yields in a specified area)
- Insured farmer gets payment when the index hits the strikepoint/threshold

Challenges to insurance

- It is hard to sell to the poor
- Farmers need to clearly understand the costs and benefits of insurance
  - Farmers always pay the premium, but infrequently receives an indemnity payment.
  - Farmers may not receive an indemnity payment (as index is high) even though yields are low.
  - If farmer does not understand 'preventative' nature of insurance, she may become disillusioned if she pays but does not receive anything.
- State-dependent benefits are not easy to grasp
- Most small farmers have never had insurance (of any type)